OIPE JC84
MAR 0 1 2004
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of :

Mark Andrew SCHEMBRI *et al.*

Serial No.: 10/681,381

Filed: October 9, 2003

Group Art Unit: 1642

Examiner: Unassigned

For: NOVEL MULTIFUNCTIONAL ADHESIVE PROTEINS AND THEIR DISPLAY IN MICROBIAL CELLS

TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following are enclosed for consideration in the above-identified application:

		FEE
[ ]	Petition	$
[ ]	National Basic Filing Fee	$
[ ]	Declaration: [ ] Original; [ ] Supplemental	$
[ ]	Submission of English Translation Processing Fee	$
[ ]	Informal Drawings: ___ Sheets ____ Figures	$
[X]	**Information Disclosure Statement**	**$**
[ ]	Amendment: [ ] Preliminary; [ ] § 116; [ ] § 312; [ ] Other	$
[ ]	Conditional Petition for Five-Month Extension of Time	$
[ ]	Issue Fee: [ ] Part B - Issue Fee Transmittal [ ] Part C - Charge to Deposit Account	$
[ ]	Notice of Appeal	$
[ ]	Appeal Brief	$
[ ]	Request for Oral Hearing	$
[ ]	Reply Brief	$
[ ]	Other:	$
[ ]	An additional claim fee is required, and is calculated as shown below	$
TOTAL FEES BEING SUBMITTED		**$0**

	Claims Remaining	Claims Paid For	Extra	Rate	Fee
Total Claims			0	x $18.00	$ .00
Independent Claims			0	x $86.00	$
Multiple Dependent Claims (if applicable)				$	$
				TOTAL EXCESS CLAIMS FEE	$ .00
SMALL ENTITY TOTAL (if applicable)					$ .00

The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and § 1.17 associated with this communication or credit any overpayment to the deposit account of Hunton & Williams, Deposit Account Number 50-0206.

Respectfully submitted,

Dated: March 1, 2004

By: _____
David H. Milligan
Registration No. 42,893

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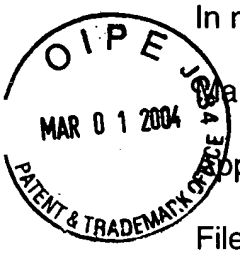
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re Patent Application of:	)	Attorney Docket No. 54259.000004
Mark A. SCHEMBRI et al.	)	Art Unit: 1642
Application No.: 10/681,381	)	Examiner: Unassigned
Filed: October 9, 2003	)	

For: NOVEL MULTIFUNCTIONAL ADHESIVE PROTEINS AND THEIR DISPLAY IN MICROBIAL CELLS

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, Applicants respectfully request consideration of the references listed on the attached Form PTO/SB/08A. Since copies of the cited references were cited in prior U.S. Patent Application No. 09/301,704, copies of the cited references are not being submitted herewith. However, copies will be forwarded at the request of the Examiner.

Applicants respectfully point out that the submission of the listed documents in this Information Disclosure Statement is not an admission that it is a prior art or that it is material to patentability of any claims of the application. Also, the submission of this Information Disclosure Statement is not an indication that a search has been made.

Applicants respectfully request that the Examiner consider the references cited on the Form PTO/SB/08A and that the Examiner indicate that the references have been

considered in this application by returning a copy of the Form PTO/SB/08A with the Examiner's initials in the left column per MPEP 609.

This IDS is submitted prior to the issuance of a first Office Action on the merits; therefore, it is believed that no fees are required in connection therewith. If any fees are necessitated by the filing of this Information Disclosure Statement, please charge the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,
HUNTON & WILLIAMS LLP

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Dated: March 1, 2004

FORM PTO-1449 (REV. 7-80) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO.: 54259.000004	SERIAL NO.: 10/681,381
LIST OF MATERIALS CITED BY APPLICANT (Use several sheets if necessary)	INVENTOR'S NAME: SCHEMBRI, *et al.*	EXAMINER: Not Assigned
	FILING DATE: October 9, 2003	GROUP ART UNIT: 1642

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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	1.	5 3 1 6 9 2 2	05/31/94	Brown et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	2.	95/20657	03/08/95	WO				
	3.	97/40161	30/10/97	WO				

OTHER MATERIALS (Including Author, Title, Date, Pertinent Pages, Etc.)

	4.	Carlos F. Barbas, III, *et al.,* Direct selection of antibodies that coordinate metals from semisynthetic combinatorial libraries, Proc. Natl. Acad. Sci. USA, Vol. 90, pp. 6385-6389, July 1993
	5.	Eric T. Boder and K. Dane Wittrup, Yeast surface display for screening combinatorial polypeptide libraries, Nature Biotechnology, Volume 15, pp. 553-557, June 1997
	6.	Stanley Brown, Engineered iron oxide-adhesion mutants of the *Escherichia coli* phage 8 receptor, Proc. Natl. Acad. Sci. USA, vol. 89, pp. 8651-8655, September 1992
	7.	George Georgiou, *et al.,* Display of heterologous proteins on the surface of microorganisms: From the screening of combinatorial libraries to live recombinant vaccines, Nature Biotechnology, Volume 15, January 1997
	8.	Ralf Janknecht, *et al.,* Rapid and efficient purification of native histidine-tagged protein expressed by recombinant vaccinia virus, Proc. Natl. Acad. Sci. USA, Vol. 88, pp. 8972-8976, October 1991
	9.	C. Hal Jones, *et al.*, FimH adhesin of type 1 pili is assembled into a fibrillar tip structure in the *Enterobacteriaceae*, Pro. Natl. Acad. Sc. USA, Vol. 92, pp. 2081-2085, March 1995
	10.	Per Klemm and Gunna Christiansen, Three fim genes required for the regulation of length and mediation of adhesion of *Escherichia coli* type 1 fimbriae, Mol Gen Genet (1987) 208: 439-445
	11.	Per Klemm, *et al.,* The fim genes responsible for synthesis of type 1 fimbriae in *Escherichia coli*, cloning and genetic organization, Mol Gen Genet (1985) 199: 410-414
	12.	Thomas B. Knudsen and Per Klemm, Probing the receptor recognition site of the FimH adhesin by fimbriae-displayed FimH-FocH hybrids, Microbiology (1998), 144, 1919-1929
	13.	Karen A. Krogfelt and Per Klemm, Investigation of minor components of *Escherichia coli* Type 1 fimbriae: protein chemical and immunological aspects, Microbial Pathogenesis 1988; 4: 231-238
	14.	Karen A. Krogfelt, *et al.*, Direct Evidence that the FimH Protein Is the Mannose-Specific Adhesin of *Escherichia coli* Type 1 Fimbriae, Infection and Immunity, June 1990, p. 1995-1998
	15.	Lars Pallesen, *et al.*, Chimeric FimH adhesin of type 1 fimbriae: a bacterial surface display system for heterologous sequences, Microbiology (1995), 141, 2839-2848
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	18.	Mark A. Schembri, *et al.*, Linker insertion analysis of the FimH adhesin of type 1 fimbriae in an *Escherichia coli fim*H-null background, FEMS Microbiology Letters 137 (1996) 257-263
	19.	Mark A. Schembri and Per Klemm, Heterobinary Adhesins Based on the *Escherichia coli* FimH Fimbrial Protein, Applied and Environmental Microbiology, vol. 64, no. 5, May 1998, p. 1628-1633

EXAMINER	DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (REV. 7-80) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO.: 54259.000004	SERIAL NO.: 10/681,381
LIST OF MATERIALS CITED BY APPLICANT (Use several sheets if necessary)	INVENTOR'S NAME: SCHEMBRI, *et al.*	EXAMINER: Not Assigned
	FILING DATE: October 9, 2003	GROUP ART UNIT: 1642

OIPE JC94 MAR 0 1 2004 PATENT AND TRADEMARK OFFICE

OTHER MATERIALS (Including Author, Title, Date, Pertinent Pages, Etc.)

	20.	Mark A. Schembri, Kristian Kjærgaard and Per Klemm, Bioaccumulation of heavy metals by fimbrial designer adhesins, FEMS MICROBIOLOGY LETTERS, vol. 170, no. 2, 15 January 1999, pages 363-371
	21.	Evgeni V. Sokurenko, *et al.*, Quantitative Differences in Adhesiveness of Type 1 Fimbriated *Escherichia coli* Due to Structural Differences in *fimH* Genes, Journal of Bacteriology, July 1995, pp. 3680-3686
	22.	Evgeni V. Sokurenko, *et al.*, Functional heterogeneity of Type 1 Fimbriae of *Escherichia coli*, Infection and Immunity, Nov. 1992, p. 4709-4719
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